

# Monthly Review

## FEDERAL RESERVE BANK OF ATLANTA

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### *Effects of the War On Sixth District Agriculture*

Since 1940 the armament program has expanded tremendously the market for farm products. This demand is two-fold in nature. In the first place, many products of southern farms are used as raw materials in armament industries and, secondly, increased incomes have made possible larger purchases of food and textile products by the consuming public.

As a result, agriculture in the Sixth District has achieved a degree of prosperity unknown since World War I. The impact of formal American participation in the war has intensified in 1942 the situation that developed in 1941. More specifically, the demands of the armament industry in 1942 for agricultural raw materials are greatly in excess of the same demands in 1941. Furthermore, to the increased demand for food and textile products by the American population has been added the greatly increased demands for food under lease-lend aid to Great Britain and to some extent to Soviet Russia.

► In 1941 the six states that lie either wholly or partly within the Sixth Federal Reserve District had a total harvested acreage for the principal crops of 37.24 million acres. In terms of acreage harvested, corn is by far the most important crop of this region, 15.27 million acres being devoted to it last year. Cotton was harvested from 7.75 million acres in the Six States last year, while the third crop in importance was hay, with 5.91 million acres harvested. Interestingly enough, as measured by the number of acres harvested, peanuts and soy beans were the fourth and fifth most important crops in the Six States in 1941, with 2.05 million acres and 1.26 million acres devoted to them, respectively. Other crops of some importance in this area in 1941 were, in descending order as measured by crop acres harvested, oats, wheat, rice, sweet potatoes, sugar cane, white potatoes, tobacco, and sorghum.

► The impact of war, industrial demands, and the loss of far-eastern areas to Japan are reflected in farm production plans for 1942. The most striking change in the Six States from 1941 to 1942 will be in the production of peanuts. The Department of Agriculture's Crop Reporting Board estimates that the acreage devoted to peanuts in this region will be 65 per cent greater in 1942 than in 1941. This increased acreage reflects recognition of the fact that crushed peanuts will serve as a partial substitute for many vegetable oils that were formerly obtainable from areas in the Southwest Pacific now under Japanese control.

Fifteen per cent more acreage will be devoted to rice in Louisiana this year than last. This increase, too, is a result of the loss of far-eastern supplies.

Soy beans have many uses in war industry, and 14 per cent greater acreage will be devoted to their production

in the Six States in 1942 than in 1941. The soy bean not only has important uses in industry, but may develop into an important source of home-grown food in the South. It has been widely used as human food in the Orient for centuries and according to one authority, it is "... richer in protein and fat than many of the meats; rich also in calcium, phosphorus, iron, and vitamin B." Sorghum, which has industrial uses as well as being a food substitute for sugar cane, will be grown on 9 per cent more acres in the region in 1942 than last year.

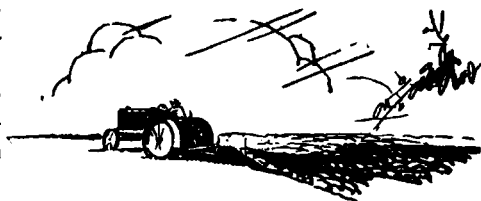
Acreage devoted to oats will be increased 23 per cent this year; tame hay will be up 11 per cent; and tobacco, 7 per cent. Acreage devoted to corn, on the other hand, will be 3 per cent less this year than last. Hegari, a new grain crop, of which the per acre yield sometimes triples former corn yields, is being grown on an increasing scale this year as a feed for livestock.

► New industrial uses for agricultural crops have widened opportunities for farmers in the District. Sorgho (cane or sweet sorghum) is becoming an important source of industrial alcohol. About 110 gallons can be made from an acre of sorgho. The United States Citrus Laboratory at Winter Haven, Florida, has developed a method for manufacturing industrial alcohol from the discarded juices that form a by-product in the manufacture of cattle feed from citrus pulp. The Laurel Starch Factory at Laurel, Mississippi, has placed the extraction of starch from sweet potatoes on a commercial basis.

Camphor is an important component of various plastics and is used in the manufacture of photographic film. This country's supply came largely from the Japanese island of Formosa, but a camphor that is chemically identical with the original product is now being produced in quantity from southern turpentine.

Under the stimulus of war demand and the interruption of the Chinese shipments, the production of strategic tung oil from the tung nut grown in Louisiana is increasing. Corn starches from waxy corn are being used in the sizing of textiles.

► As a result of increased output and higher prices, cash farm income in the Sixth Federal Reserve District is now running about 46 per cent higher than a year ago. Taking the prices received by farmers in the five-year period, August 1909 to July 1914, as 100, grain prices stood at 121 in February 1942 as compared with 81 in February 1941, cotton and cotton seed at 150 as compared with 80, fruits at 98 as compared with 80, truck crops at 161 as compared with 156. The prices of meat animals were at 175 in February 1942 as compared with 130 a year earlier, dairy products at 147 compared with 118, and chickens and eggs at 135 as



compared with 90 in February 1941.

For all groups of farm products, the index of prices received by farmers was 145 in February 1942 as compared with 103 in February 1941. During the year ending in February 1942 the ratio of prices received by farmers to prices paid by farmers rose from 84 to 99 despite the fact that industrial prices rose steadily throughout the period.

▶ A possible threat to the prosperity of agriculture in the District exists in the serious shortage of farm labor that is now developing. The manager of the Birmingham office of the United States Employment Service has announced formation of a farm placement unit in the Employment Service as a result of a large number of requests for help from farm

operators. The Georgia State Planning Board has considered proposals under which city boys and girls would work on the farms over the weekends or during the summer vacation, but no action has been taken as yet. Shortages of farm labor are reported in Tennessee as well.

There has been as much as a 40 per cent decrease in labor supply in some areas despite increases of as much as 60 per cent in farm wage rates in southern states. In Georgia, for instance, a survey of 90 counties by the State Farm Labor and Tenure Sub-Committee indicates a shortage of 95,000 farm workers this year. Rather severe labor shortages are anticipated in the peach and tobacco sections between June 15 and August 1.

## Rural Population in the Sixth District

The Sixth District maintains its predominantly rural character despite the fact that a smaller proportion of the population was living in rural areas in 1940 than in 1930. According to the data recently released by the Bureau of the Census, but adjusted to apply only to the District, 62.6 out of every hundred persons in the District lived on the farm or in places of less than 2500 in 1940, while the comparable figure for 1930 was 65.4. Almost half of the 448 counties or parishes in the District by the 1940 Census were entirely rural. The decrease in the proportion of rural population in the District owing to the rapid rate of growth of the urban population is in contrast to the trend in the United States as a whole, where the proportion of rural population was approximately the same in 1940 as in 1930.

▶ Population growth in the District was also in marked contrast to the rest of the United States. The total population in the District, both urban and rural, increased from 1930 to 1940 by 12.7 per cent. This rate of growth was greater than that of both the United States and the South outside the District, where the rate of population growth was 7.2 and 8.9 per cent, respectively. The greater rate of population growth in the District was due not only to the fact that the rural population increased more rapidly than in other areas but also to the 21 per cent increase in the urban population of the District, almost three times as great a rate as that for the nation as a whole.

There are, of course, variations from state to state within the District. A greater proportion of Florida's population is urban than rural while only 30 per cent of the population of

Mississippi is urban, with the other states distributed between the two extremes. In all states except Louisiana, however, the increase in the urban population was greater than that in the rural areas.

The changes in urban-rural relationships are summarized in Table I.

Totals conceal many significant changes within the District and the states making up the District. Despite the over-all increase in each state, 105 out of the 448 counties or parishes decreased in population from 1930 to 1940. The relative rates of change may be understood best by an examination of the accompanying chart.

Important shifts from rural to urban areas took place, even though the total rural population did not decline. Decreases in population were heavier in those counties where the population was predominantly rural. In Alabama, for example, where 19 out of 67 counties decreased in population, the decreases were, for the most part, in counties that were entirely or predominantly rural. In Georgia, while urban population declined in only four counties, rural population declined in 78 counties, and total population decreased in 60 counties. Throughout the District, 145 of the counties had fewer rural inhabitants in 1940 than in 1930.

▶ Migration from rural to urban areas has been a normal occurrence throughout the history of the United States. Until the decade 1930 to 1940, the rate of increase of urban population has always considerably exceeded the rate of growth of rural population, except for the decade 1810 to 1820. While the birth rate in cities is such that the population of urban places does not replace itself, the excess of births over deaths in rural areas is more than sufficient to replace existing population. Cities have grown because of migration from the rural areas, and such a cityward migration has been normal. However, variations in the rate of migration and increases in migration so great as to cause actual declines in rural population are probably due to changes in economic conditions in either the city or the country.

During the 1920's cities grew at a relatively rapid rate as the result of migration from rural to urban areas. Urban population as a whole increased 27.3 per cent throughout the United States from 1920 to 1930 in contrast to the 4.4 increase in rural population. With the advent of the depression, migration from the country to the city declined sharply. Urban population in the United States for the decade

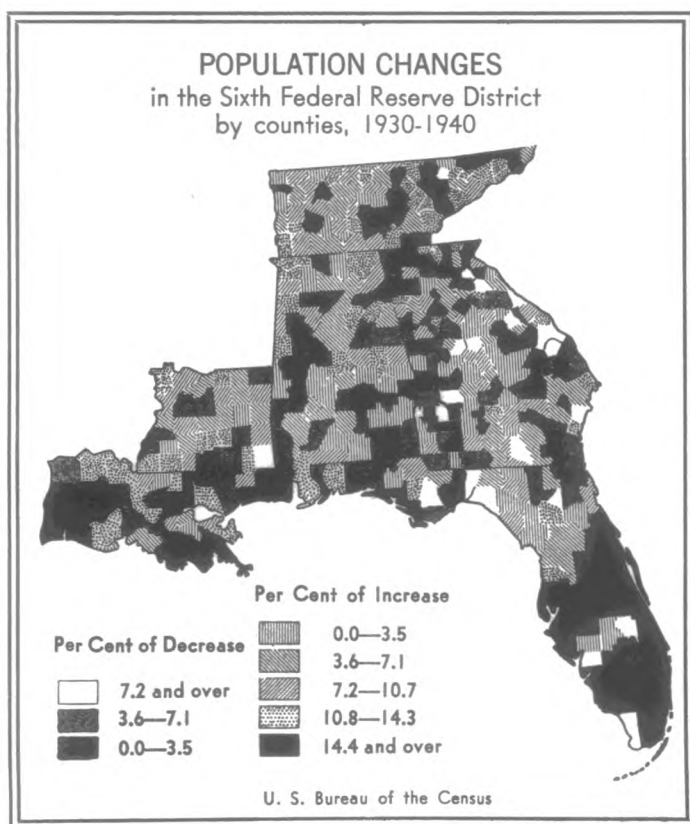
TABLE I—RURAL AND URBAN POPULATION  
Sixth Federal Reserve District

	Per Cent Urban		Per Cent Increase Urban		Per Cent Rural		Per Cent Increase in Population 1930-1940	
	1940	1930	1930-1940		1940	1930	Rural	Total
Alabama.....	30.2	28.1	15.0		69.8	71.9	3.9	7.1
Florida.....	55.1	51.7	37.6		44.9	48.3	20.2	29.2
Georgia.....	34.4	30.8	19.9		65.6	69.2	1.8	7.4
Louisiana*	48.3	47.8	16.6		51.7	52.2	22.3	15.1
Mississippi*	27.3	24.4	26.7		72.7	75.6	9.0	13.3
Tennessee*	32.2	31.6	15.2		67.8	68.4	12.2	13.1
DISTRICT*	37.4	34.6	21.6		62.6	65.4	8.6	12.6
The South**	36.7	34.1	18.5		63.3	65.9	5.7	10.1
Rest of South	36.4	33.9	17.2		63.6	66.1	4.8	8.9
UNITED STATES	56.5	56.2	7.9		43.5	43.8	6.4	7.2

\*Adjusted in order to exclude counties and parishes not in the District.

\*\*South Atlantic, East South Central, and West South Central states.

Source: United States Bureau of the Census.



1930-1940 increased 7.9 per cent, only slightly exceeding the rural population increase of 6.4 per cent. The rate of rural population increase, however, was the greatest since the decade 1900-1910. Evidently throughout the United States as a whole, more people remained in the rural areas. In the South and particularly in the Sixth District, however, cities continued to grow at a relatively high rate. The rate of city growth from 1930 to 1940 was lower than from 1920 to 1930, but it was still three times that of the growth of rural population.

Apparently two sets of forces continued to draw men and women from the farm and rural communities of the South. The changed characteristics in the structure of the agricultural economy in the District may have pushed them toward the cities by depriving certain elements of the rural population of their economic livelihood. On the other hand, increasing industrialization in the South may have drawn population to the urban centers by providing economic opportunities not available in the rural areas.

It is difficult to judge whether the changed agricultural population structure is the result of the migration of rural

population or its cause. It is evident, however, from the data shown in Table II that there has been a change from 1930 to 1940.

► Farm acreage throughout the District increased, despite the fact that the number of farm operators decreased. Coincident with the decline in the number of farms, was an increase in the average size of farms in the District from 78.7 acres in 1930 to 93.1 acres in 1940. The relatively large increase in farm acreage in Florida may account for the increase in the number of farm operators in that state. In Tennessee, the average farm size increased but slightly, while there was an increase in the number of farm operators. In all states of the District, however, there were increases in the size of farms.

A great part of the decrease in the number of farm operators was the result of a decline in the number of nonwhite operators. The proportion of nonwhite operators decreased from 45.1 per cent for the District in 1930 to 32.4 per cent in 1940. At the same time there was a reduction in the proportion of farms operated by tenants and croppers. While 62.2 per cent of the farms in the District were operated by tenants in 1930, the proportion had declined in 1940 to 55.3 per cent. The per cent of farms operated by croppers decreased from 31.4 per cent in 1930 to 26.1 per cent in 1940.

Mechanization, large scale farming, the relatively depressed state of southern agriculture during the early thirties, and other factors have operated together to bring about these changes. The altered structure of the agricultural economy has doubtless stimulated migration from rural to urban areas. If previous experience can be taken as a guide, the present war production program will further stimulate such migration. The reported and predicted labor shortages in agriculture are probably due to the operation of the long-run factors as well as to the expansion of wartime industry. The "Food for Victory" program, with its expansion of certain agricultural crops, discussed elsewhere in this issue of the Monthly Review, will create an increased demand for farm labor. In some areas of the District, unless conditions have changed since 1940, the program must be met with a smaller population than during the depression years of the thirties.

► Despite the increase in urban population, the economic welfare of the majority of the population in the District is dependent upon the prosperity of agriculture. Changes in national agricultural policies, the loss of markets, the discovery of new uses and markets for agricultural products, and a host of other factors that affect the prosperity of the agricultural community have an importance in the District out of proportion to that in other districts more urban in character. The transformation of the District as a whole into an urban economy will not take place in the immediate future, though there are definite tendencies in that direction.

**TABLE II—RURAL CHANGES IN THE SIXTH FEDERAL RESERVE DISTRICT, 1930-1940**

	Farm Acreage				Farm Operators					
	Per Cent Change 1930-1940	Average Size of Farms (Acres)		Per Cent Change 1930-1940	Per Cent Non- White Operators		Per Cent Tenants		Per Cent Croppers	
		1940	1930		1940	1930	1940	1930	1940	1930
Alabama.....	9.0	82.6	68.2	—10.0	31.7	36.4	58.8	64.7	17.9	25.3
Florida.....	65.8	133.9	85.2	+ 5.6	15.7	18.7	25.2	28.4	5.5	8.2
Georgia.....	14.6	109.6	86.4	—15.5	27.4	34.0	60.1	68.2	28.2	39.5
Louisiana*	6.8	66.6	57.9	— 7.1	39.7	21.7	59.4	66.6	26.4	30.6
Mississippi*	2.3	63.1	55.4	— 6.8	54.8	58.4	66.2	72.2	43.1	43.3
Tennessee*	2.7	74.7	73.3	+ 7.9	11.3	14.3	40.3	46.2	16.8	20.5
SIX STATE TOTAL*	9.7	93.1	78.7	— 7.2	32.4	45.1	55.3	62.2	26.1	31.4

\*Not adjusted for counties and parishes outside the District.

## The Sweet Potato—A New Answer to an Old Problem

Because of the predominant importance of agriculture in the economy of the Sixth Federal Reserve District, any possibility of a new commercial crop or of a new method of crop utilization is of much significance. Of more than usual significance are recent experiments that have been made in the possible use of sweet potatoes as a livestock feed crop.\* If the principles developed in the experiments should prove successful in actual practice, it is possible that a revolution is in store for southern agriculture.

The revolution would take place because, with the use of sweet potatoes for stock feed, the southern farmer, for the first time, would have cheap and abundant supplies of carbohydrate stock feed. With corn as the present principal carbohydrate feed, advocates of a livestock program for the South have frequently overlooked the fact that its low yield per acre placed the southern livestock producer at a disadvantage compared with the livestock producer of the middle western corn states. High-protein feeds such as soybean hay, cottonseed meal, and peanut hay are already abundantly and cheaply available in the South, but the great lack has been a crop that would give nearly the equivalent feeding value per acre of midwestern corn. The sweet potato may be the answer.

► Before the sweet potato might be successfully used as a livestock feed, a number of problems had to be solved. There was the backbreaking and time-consuming problem of "slip" planting, for sweet potato seed might not be dropped into the ground as is corn by a corn-planting machine. There was the problem of developing a practicable machine digger so that the crop might be harvested on a large scale without relying upon hand labor. There was the problem of determining the most suitable varieties of the sweet potato for livestock purposes and comparing their food values with those of corn. Above all other considerations was the problem of a cheap and practicable method of processing the sweet potato for livestock purposes.

► The problem of mechanizing the production of sweet potatoes on a volume basis has largely been solved. The white potato digger and loader has already been successfully adapted to the harvesting of sweet potatoes and, at the same time, progress has been made with the development of a machine for setting sweet potato slips. Chief interest hitherto in the production of sweet potatoes has been in producing a crop suitable for human consumption. Emphasis has therefore been placed upon the production of a medium-sized potato more or less uniform in size and having early maturities. This concentration upon a particular type of potato led to lower yields per acre than might have been realized otherwise and to care in planting, harvesting, and grading that

materially increased the cost of production. On the other hand, in producing the sweet potato for livestock feed purposes, the emphasis would be upon total production, regardless of maturity, size, uniformity, and care in handling. This shift in emphasis and the use of machinery would materially lower production costs.

Even without the use of mechanical planters and harvesters, the production of the sweet potato in the South does not require much more labor and expense than the production of corn. Seed for the production of the necessary slips for sweet potato planting may be produced at approximately the same cost as seed corn. Fertilizer costs are likewise about the same. While the cost of planting the sweet potato is greater than that of planting corn, the increase in cost is more or less offset by lower cultivation costs. The cost of harvesting the sweet potato corresponds to that of harvesting corn.

The conclusion is that even if sweet potatoes continued to be produced on a small-plot basis rather than on a large-plot, mechanized basis, the southern farmer could still produce sweet potatoes more advantageously than he could produce corn. Merely the possibility that the sweet potato, produced on plots of from four to five acres, might be fed to livestock in the place of corn offers exciting prospects for the future development of southern agriculture.

► As in the case of developing mechanical equipment for the production of sweet potatoes, the problem of selecting proper varieties for livestock uses and of demonstrating the relative feed values of sweet potatoes and of corn has largely been solved. A number of varieties of sweet potato have been developed with the necessary high starch content for livestock feeding purposes. At the Mississippi Agricultural Experiment Station, varieties have been produced with a starch content of as high as 28 per cent and with yields as high as 308 bushels per acre. Varieties such as the Mississippi Blue Stem Triumph and the Mississippi Green Stem Triumph have been especially promising. At the Alabama Experiment Station at its Fairhope plot, a three-year average of 432 bushels per acre was produced, and at its Belle Mina plot, a five-year average of 314 bushels per acre was produced. Yields of from 500 to 600 bushels on individual plots have been obtained.

Chemical analyses based upon starch and protein content values indicate that one bushel of corn is worth approximately three bushels of sweet potatoes. Even so, the southern producer of sweet potatoes has a differential advantage over the southern producer of corn. Keeping in mind that the average yields per acre of sweet potatoes on a human consumption basis necessarily involve higher production costs, the data as given in Table 1 show some differential advantage to the sweet potato in each of the states of the Sixth Federal Reserve District. In fact, with emphasis upon the production of feed potatoes, it is confidently estimated that the southern farmer can produce two to three times as much feed value from an acre of sweet potatoes as he can from an acre of corn.

Actual feeding tests have demonstrated the value of the sweet potato as a livestock feed. Tests made in the Mississippi Agricultural Experiment Station showed that pulp from sweet potato starch manufacturing was 95 per cent as valuable for

\* Many specialists and investigators have participated in the development of the sweet potato as a potential livestock feed. Among those who have been in the forefront in the necessary research are L. M. Ware and F. A. Kummer of the Agricultural Experiment Station of the Alabama Polytechnic Institute, who are originators of the sun-drying and machine shredding processes. U. R. Richee of the Laurel Starch Factory, Laurel, Mississippi, H. S. Paine, F. H. Thurber, and R. P. Balch of the Carbohydrate Research Division, Bureau of Chemistry and Soils, have for some time experimented with feed tests of sweet potato pulp and with processing the sweet potato for livestock use. Other champions of the sweet potato as a livestock feed are J. F. Jackson, General Agricultural Agent, Central of Georgia Railway Company; Julian C. Miller, Department of Horticultural Research, Louisiana State University; Roscoe Arant, Regional Business Consultant, United States Department of Commerce; Alexander Nunn, Associate Editor of *The Progressive Farmer*; and Ray Crow of the Farm Products Division of the Tennessee Coal, Iron, and Railroad Company.

milk and fat production as crushed ear corn and sugar beet pulp. In a 126-day feeding test at the Alabama Agricultural Experiment Station, conducted during the winter of 1940-1941, sweet potato meal was shown to be 91 per cent and sweet potato pulp 98 per cent as efficient as corn meal. In a 140-day feeding test at the Alabama Station, made during the winter of 1941-1942, dried sweet potatoes showed superior feed values to ground corn. When the dried sweet potatoes were combined with sweet potato vine silage—a feed rich in protein, fat, and fiber—the superiority over ground corn and corn silage was even greater.

TABLE 1. COMPARATIVE FEED VALUES PER ACRE OF CORN AND SWEET POTATOES

State	Sweet Potatoes		Corn	Ratio of Value of Sweet Potatoes to Corn
	Yield per Acre in Bushels, 1941	Equiv. Feed Value in Terms of Corn*	Yield per Acre in Bushels, 1941	
Alabama.....	75	25.0	15.5	1.61
Florida.....	68	22.7	9.0	2.52
Georgia.....	69	23.0	10.5	2.19
Louisiana.....	66	22.0	15.0	1.47
Mississippi.....	95	31.7	17.0	1.87
Tennessee.....	88	29.3	25.5	1.15

\*Three bushels of potatoes are computed as having the same feed value as one of corn.

Source: Annual Crop Summary, 1941 (United States Department of Agriculture, Agricultural Marketing Service).

► Both the method of producing the sweet potato and the value of the sweet potato as a food have long been familiar to the southern farmer. The real stumbling block has been the matter of developing a cheap and practicable method of processing the sweet potato for livestock consumption. The prime difficulty has been the perishability of the sweet potato, making it necessary to reduce the water content to about 12 per cent if the feed was to be long preserved. Various methods were tried, such as grinding and treating the resulting pulp with certain chemical reagents to permeate the cell walls, thus permitting the water to be pressed out by mechanical means. Evaporation was tried by the use of artificial heating, leading to the necessity of special drying plants that would have to be established in the growing area. But these methods of extracting the water were relatively expensive.

The problem has apparently been solved, however, with the recent development of natural drying processes by the

Alabama Agricultural Experiment Station. The simple expedient was developed of shredding potatoes and exposing them to the air on a drying surface. The sun-drying method offered great possibilities since the labor could be provided on the farm and the cost of the necessary equipment would be very modest.

Studies were made on various drying surfaces such as composition and metal roofing, tar and craft paper, and priming oil and asphalt surfaces. The use of ordinary building or tar paper appeared the most immediately practicable, with drying costs of 25 cents per ton, or even lower, attainable. A study of climatic factors was then in order, for, naturally, the potato shreds do not dry in the rain. Bright sunshine and high winds greatly facilitate drying, but it was found that even on cloudy days evaporation took place. Shreds exposed to the air did not lose their palatability or feeding value to any great extent, even when rained upon several times during the drying process. Success of this drying technique was such as to indicate that the drying problem had been essentially solved.

Before sweet potatoes may be exposed to the sun-drying process, they must first be shredded. The Alabama Experiment Station has produced a cheap type of potato shredder, one that can be produced for from \$50 to \$75. The machine shreds the potatoes into what is known as cosettes or strings. This material is dried until it makes a crackling sound when poured on paper. If dried to between 12 and 15 per cent moisture content, it will keep well and be suitable for sacking, storing, or transportation in bulk.

► It may be concluded that, while much work yet remains to be done, there is a distinct possibility that the southern farmer may presently be growing the sweet potato on a mass production, mechanized basis. He may have at his disposal a carbohydrate feed crop of the equivalent value of midwestern corn. With the sweet potato having a differential advantage of two or three times that of southern corn, he may have a crop that will give him an opportunity to produce livestock on a scale hitherto impossible of attainment. With these potentialities in store, the advocates of the sweet potato as a livestock feed hope that they will be fully justified in their enthusiasm.

## District Summary of Business Conditions

The stimulus given to business by various phases of the war program continues to be the dominant factor in the over-all business picture in the Sixth Federal Reserve District. The lack of the necessary manufacturing facilities continues to handicap the District in the distribution of war contracts for the production of tanks, planes, guns, and automotive equipment. So far as the heavy armament industry is concerned, therefore, the District lies largely on the fringe of the wartime boom. Nevertheless, the armament program either directly or indirectly contributes to the increased tempo of business activity in the area.

► Industrial production in the District has been notably affected by the war program. Indexes of employment and payrolls as shown in the accompanying tabulation of Sixth District business indicators show substantial gains for March of this year over the preceding month and over the same month a year ago. The textile industry in the District, now largely operating on war contracts, was readily convertible to pro-

duction for wartime needs. In March, cotton textile mills in Alabama, Georgia, and Tennessee consumed an average of 12,531 bales of cotton for each of the 26 business days, representing a new high record for textile activity in these states. The index of cotton consumption for March showed a 13 per cent increase over March of last year, and in the eight months of the current season, August through March, the rate of consumption was 19 per cent greater than for the same period of last year.

Activity in the coal and iron regions of the District reached new levels during the month of March. Steel mills in the Birmingham-Gadsden area operated at 99 per cent of capacity, according to *The Iron Age*. During March of last year the mills operated at 97.1 per cent of capacity, and in April of last year at 95.0 per cent. Pig iron production in Alabama increased by 10 per cent in March, but because of the longer month, the daily average rate of output was slightly below that of February, although 2 per cent above the rate for March

of last year. For the United States as a whole, the production of pig iron for the month of March was at a rate of 3 per cent higher than in February and 9 per cent higher than in March of last year. Production of coal in Alabama and Tennessee increased slightly, on a daily average basis, during the month of March, even though there is normally a small decline in production for this month. The seasonally adjusted index of production advanced 6 per cent from February and 3 per cent above that for March of last year.

► According to the American Petroleum Institute, oil production in Louisiana amounted to 337,000 barrels daily for the week ending April 11, 1942. This production represented an increase of 6.0 per cent over the previous week and of 8.1 per cent over the corresponding week in 1941. The Louisiana Division of Minerals reported 22 new permits to drill wells in the week ending April 4, and 17 new permits in the week ending April 11. Completion of seven new wells for the week ending April 4 and of nine new wells for the week ending April 11 was also announced.

In Mississippi, the 99,050 barrel average daily production in the week ending April 11 was 0.6 per cent higher than that of the preceding week and over three times, or 362.9 per cent, higher than the corresponding week in 1941. New developments are reported in several areas.

► In the Atlanta area, the most significant development during the month of April was the beginning made on the construction of a bomber plant. This plant is to be constructed at a cost of \$15 million, and when full production is reached is expected to employ several thousand workers. Contracts during the month of April were let for the construction of two new six-way shipyards which, on completion, will add considerably to the extensive shipbuilding activities already under way in the District.

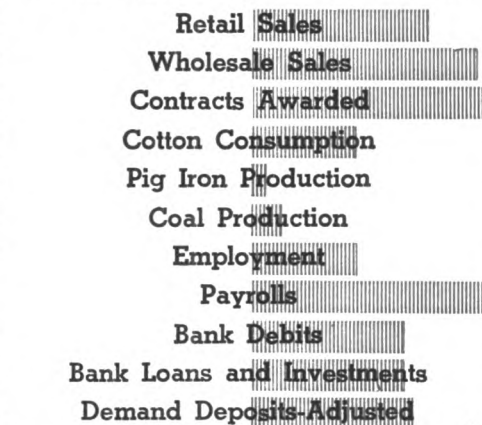
Index figures for contracts awarded for the District as a whole and for individual states show an over-all increase. The indexes for both Florida and Tennessee, however, show substantial decreases for March of 1942, as compared with March of 1941. On the other hand, the indexes for Alabama, Georgia, and Louisiana show especially large increases.

► Heavy government buying of southern pine has maintained the level of lumber sales. According to the Southern Pine Association's weekly trade barometer, lumber production for the week ending April 11, 1942, was 4.8 per cent below the three-year average, but orders were 6.1 per cent above the three-year average. Production and shipments were 13.5 per cent above the three-year average. Shipments during the week exceeded production for that week by 19.2 per cent.

Residential construction, subject to certain limitations, is still permitted in defense areas, and with expanded needs for defense housing, operators anticipate a continued heavy demand for lumber. Residential contract awards in the District for March were 27 per cent greater than for February, and 12 per cent greater than for March of a year ago. This increase in residential construction may be compared with the 31 per cent increase for March over February, and the 27

## Reconnaissance

PER CENT DECREASE ↘ PER CENT INCREASE



Sixth District statistics for March 1942 compared with March 1941.

per cent increase for March of this year compared with last year, as reported in the 37 states for which F. W. Dodge figures are available.

The war program continues to have its effect upon agriculture in the District. While cash income received by farmers in the six states of the District declined 17 per cent in February, as compared with January of this year, the February cash income was 44 per cent greater than in February 1941. The February total, like that for January, is the largest on record for the month. February receipts from marketing of crops, livestock, and livestock products, amounting to \$67,667,000 were 53 per cent greater than a year ago. Since government benefit payments were up only 2 per cent, this increase was primarily the result of higher agricultural prices.

► Sales at department stores in the District reflect the more favorable industrial and agricultural situation. Department store sales usually increase from February to March, but this year the increase was greater than the seasonal factor alone would lead one to expect. The dollar volume of sales in March reported by 80 department stores in the District was 31 per cent greater than in February. Based on a group of more than half of these stores, the daily average sales index was 25 per cent above February of this year, and 22 per cent above March of last year. In fact, the level thus attained was higher than for March of any other year in the series. There is usually a rise in the index in the month of March because of ordinary spring buying. The fact that Easter was a week earlier this year than last is no doubt partly responsible for the extent of the March increase. Departmental sales reports from a selected list of firms indicate that substantial gains, as compared with a year ago, were made in the sales of men's and boys' clothing, women's and children's shoes, infants' and girls' wear, and piece goods. On the other hand, declines were reported for March of this year, compared with March of last year, in sales of furs and furniture.

► In March, inventories continued their upward rise, despite continued high sales at retail. It must be borne in mind, however, that the rise in both inventory and sales figures is somewhat exaggerated for the reason that prices have been rising at a very rapid rate over the past year. For this reason, the volume of goods stocked and sold by department stores has not increased as much as the dollar sales and inventory figures would seem to indicate at first glance.

► Wholesale trade in the Sixth District likewise continued at high levels. In dollar volume, the March wholesale trade was 7 per cent greater than for the previous month, and 28 per cent greater than in March of last year. As in the case of department store sales, much of this increase, especially over March of last year, should probably be attributed to the higher level of prices. The wholesale price index of the United States Bureau of Labor Statistics averaged 19.6 per cent higher in March this year, as compared with March last year. March sales of electrical goods and of paper and paper products were less than in February, but increases were shown for other reported lines of wholesale trade, with the exception of automotive supplies.

CONDITION OF FEDERAL RESERVE BANK OF ATLANTA  
(In Thousands of Dollars)

	Apr. 15 1942	Mar. 18 1942	Apr. 16 1941	Per Cent Change Apr. 15, 1942, from	
				Mar. 18 1942	Apr. 16 1941
Bills discounted.....	95	125	57	- 24	+ 67
Industrial advances.....	495	461	241	+ 7	+ 105
U. S. securities.....	98,897	95,664	94,885	+ 3	+ 4
Total bills and securities.....	99,487	96,249	95,183	+ 3	+ 5
F. R. note circulation.....	316,179	300,166	205,230	+ 5	+ 54
Member bank reserve deposits.....	347,682	343,629	288,709	+ 1	+ 20
U. S. Gov't deposits.....	14,582	518	26,924	x	- 46
Foreign bank deposits.....	25,278	25,622	27,829	- 1	- 9
Other deposits.....	3,896	2,974	5,729	+ 31	- 32
Total deposits.....	391,438	372,743	349,191	+ 5	+ 12
Total reserves.....	605,666	586,265	461,781	+ 3	+ 31
Industrial advance commitments.....	1,560	1,594	.....	- 2	...

CONDITION OF 20 MEMBER BANKS IN SELECTED CITIES  
(In Thousands of Dollars)

	Apr. 15 1942	Mar. 18 1942	Apr. 16 1941	Per Cent Change Apr. 15, 1942, from	
				Mar. 18 1942	Apr. 16 1941
Loans and Investments—Total.....	864,902	833,327	702,987	+ 4	+ 23
Loans—Total.....	400,009	404,279	375,650	- 1	+ 6
Commercial, industrial, and agricultural loans.....	227,001	226,803	198,472	+ 0	+ 14
Open market paper.....	7,636	7,796	4,971	- 2	+ 54
Loans to brokers and dealers in securities.....	5,076	4,771	7,045	+ 6	- 28
Other loans for purchasing and carrying securities.....	8,296	8,601	11,183	- 4	- 26
Real estate loans.....	31,103	31,867	35,810	- 2	- 13
Loans to banks.....	1,276	1,314	1,189	- 3	+ 7
Other loans.....	119,621	123,127	116,980	- 3	+ 2
Investments—Total.....	464,893	429,048	327,337	+ 8	+ 42
U. S. direct obligations.....	295,177	256,991	158,242	+ 15	+ 87
Obligations guaranteed by U. S. ....	59,761	60,637	53,163	- 1	+ 12
Other securities.....	109,955	111,420	115,932	- 1	- 5
Reserve with F. R. Bank.....	207,045	215,741	172,410	- 4	+ 20
Cash in vault.....	17,882	18,283	14,772	- 2	+ 21
Balances with domestic banks.....	255,706	256,289	268,246	- 0	- 5
Demand deposits—adjusted.....	576,278	583,154	483,900	- 1	+ 19
Time deposits.....	189,711	189,455	192,987	+ 0	- 2
U. S. Gov't deposits.....	60,145	64,168	34,324	- 6	+ 75
Deposits of domestic banks.....	447,347	434,234	386,440	+ 3	+ 16
Borrowings.....	50	.....	.....	.....	.....

DEBITS TO INDIVIDUAL ACCOUNTS  
(In Thousands of Dollars)

	Mar. 1942	Feb. 1942	Mar. 1941	Per Cent Change Mar. 1942 from	
				Feb. 1942	Mar. 1941
<b>ALABAMA</b>					
Birmingham.....	158,147	143,121	119,841	+ 10	+ 32
Dothan.....	6,757	5,756	3,963	+ 17	+ 71
Mobile.....	89,972	75,932	54,569	+ 18	+ 65
Montgomery.....	32,637	31,427	27,197	+ 4	+ 20
<b>FLORIDA</b>					
Jacksonville.....	118,746	111,509	122,035	+ 6	- 3
Miami.....	79,478	81,809	84,313	- 3	- 6
Pensacola.....	16,125	14,710	12,013	+ 10	+ 34
Tampa.....	51,839	44,795	40,522	+ 16	+ 30
<b>GEORGIA</b>					
Albany.....	8,618	7,722	6,568	+ 12	+ 31
Atlanta.....	321,232	290,371	286,648	+ 10	+ 12
Augusta.....	41,227	37,164	25,469	+ 11	+ 62
Brunswick.....	3,631	3,231	3,174	+ 12	+ 14
Columbus.....	28,519	24,782	24,417	+ 15	+ 17
Elberton.....	1,618	1,387	1,345	+ 17	+ 20
Macon.....	31,718	27,101	26,530	+ 17	+ 20
Newnan.....	3,806	3,269	2,601	+ 16	+ 46
Savannah.....	44,256	36,158	35,832	+ 22	+ 24
Valdosta.....	6,032	6,087	4,312	- 1	+ 40
<b>LOUISIANA</b>					
New Orleans.....	308,187	277,998	270,115	+ 11	+ 14
<b>MISSISSIPPI</b>					
Hattiesburg.....	11,234	10,289	11,209	+ 9	+ 0
Jackson.....	50,363	39,226	31,923	+ 28	+ 58
Meridian.....	17,067	16,448	15,385	+ 4	+ 11
Vicksburg.....	11,159	11,936	7,877	- 7	+ 42
<b>TENNESSEE</b>					
Chattanooga.....	70,897	64,548	56,267	+ 10	+ 26
Knoxville.....	45,105	37,702	37,483	+ 20	+ 20
Nashville.....	121,581	108,088	104,371	+ 12	+ 16
<b>SIXTH DISTRICT</b>					
26 Cities.....	1,679,951	1,512,606	1,415,979	+ 11	+ 19
<b>UNITED STATES</b>					
274 Cities.....	49,175,000	41,550,000	44,558,000	+ 18	+ 10

RETAIL TRADE — MARCH 1942  
(Cities for which no indexes are compiled)  
Sales for March compared with:

	Feb. 1942	Mar. 1941		Feb. 1942	Mar. 1941
Baton Rouge.....	+ 46	+ 29	Macon.....	+ 47	+ 26
Chattanooga.....	+ 46	+ 23	Miami.....	+ 9	- 6
Jackson.....	+ 37	+ 21	Montgomery.....	+ 32	+ 18
Jacksonville.....	+ 34	+ 18	Tampa.....	+ 24	+ 19
Knoxville.....	+ 43	+ 34			

SIXTH DISTRICT BUSINESS INDICATORS  
Indexes

(1923-1925 Average = 100, except as noted)

	Adjusted*			Unadjusted		
	Mar. 1942	Feb. 1942	Mar. 1941	Mar. 1942	Feb. 1942	Mar. 1941
<b>RETAIL SALES** (1935-1939 Av. = 100)</b>						
DISTRICT (46 Firms).....	152	141	125	152	122	125
Atlanta.....	149	120	130	149	120	130
Birmingham.....	167	131	134	167	131	134
Nashville.....	149	114	122	149	114	122
New Orleans.....	136	116	109	136	116	109
<b>RETAIL STOCKS</b>						
DISTRICT (21 Firms).....	121	115	83	125	113	86
Atlanta.....	230	213	162	235	204	165
Birmingham.....	100	98	76	102	94	78
Nashville.....	109	96	60	111	91	61
New Orleans.....	110	105	71	114	105	74

## WHOLESALE SALES

TOTAL.....	90	84	72
Groceries.....	75	71	64
Dry Goods.....	67	66	54
Hardware.....	156	137	132
Drugs.....	163	147	125

## CONTRACTS AWARDED

DISTRICT.....	117	80	78
Residential.....	94	74	84
Others.....	132	83	74
Alabama.....	249	172	69
Florida.....	43	59	62
Georgia.....	188	84	54
Louisiana.....	176	79	122
Mississippi.....	104	110	90
Tennessee.....	52	59	109

## BUILDING PERMITS

20 CITIES.....	28	39	54
Atlanta.....	16	24	28
Birmingham.....	21	29	30
Jacksonville.....	62	54	90
Nashville.....	25	5	14
New Orleans.....	30	23	26

## PIG IRON PRODUCTION\*\*

Alabama.....	138	139	136
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## COAL PRODUCTION\*\* (1935-1939 Av. = 100)

TWO STATES.....	150	142	146
Alabama.....	167	165	160
Tennessee.....	174	171	163
Tennessee.....	152	152	152

## COTTON CONSUMPTION\*\*

THREE STATES.....	264	263	235
Alabama.....	328	330	279
Georgia.....	240	237	221
Tennessee.....	235	236	188

## EMPLOYMENT (1932 Av. = 100)

SIX STATES.....	166	163	147
Alabama.....	195	190	158
Florida.....	126	126	124
Georgia.....	175	173	162
Louisiana.....	167	158	130
Mississippi.....	132	132	116
Tennessee.....	153	152	140

## PAYROLLS (1932 Av. = 100)

SIX STATES.....	314	301	221
Alabama.....	510	488	312
Florida.....	158	149	123
Georgia.....	302	297	247
Louisiana.....	288	259	167
Mississippi.....	231	228	160
Tennessee.....	299	293	220

## ELECTRIC POWER PRODUCTION\*\* (1935-1939 Av. = 100)

TOTAL.....	192	195	169
By Water Power.....	204	170r	164
By Fuel.....	177	227r	177

Statistics  
(000 Omitted)

	Mar. 1942	Feb. 1942	Mar. 1941	Year to Date 1942	1941
<b>COMMERCIAL FAILURES</b>					
Number (Actual, not thousands).....	45	36	44	130	124
Liabilities.....	\$ 469	\$ 544	\$ 439	\$ 1,631	\$ 1,073

## FARM INCOME\*\*\*

	Feb. 1942	Jan. 1942	Feb. 1941	Year to Date 1942	1941
SIX STATES.....	\$78,028	\$94,377	\$54,257	\$172,405	\$118,957
Alabama.....	7,107	8,801	5,402	15,908	11,320
Florida.....	19,632	22,912	12,314	42,544	26,310
Georgia.....	9,445	10,025	9,543	19,470	18,133
Louisiana.....	11,605	12,766	6,533	24,371	15,734
Mississippi.....	14,202	16,445	9,430	30,647	18,828
Tennessee.....	16,037	23,428	11,035	39,465	28,632

\*Adjusted for seasonal variation

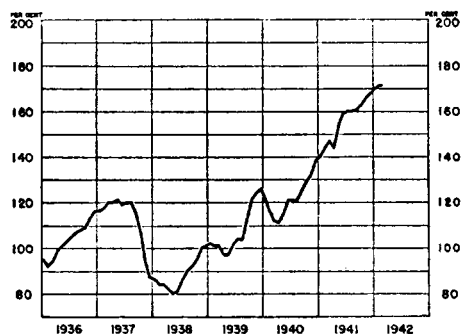
\*\*Indexes of retail sales, electric power, coal, and pig iron production, and of cotton consumption are on a daily average basis

\*\*\*Includes Government benefit payments

r = Revised

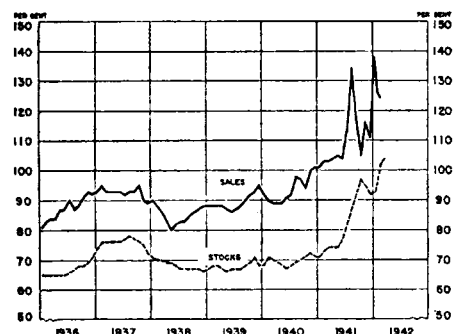
xThe percentage increase here is meaningless

## INDUSTRIAL PRODUCTION



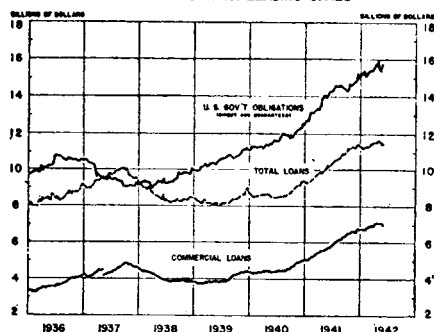
Federal Reserve monthly index of physical volume of production, adjusted for seasonal variation, 1935-39 average = 100. Latest figure shown is for March 1942.

## DEPARTMENT STORE SALES AND STOCKS



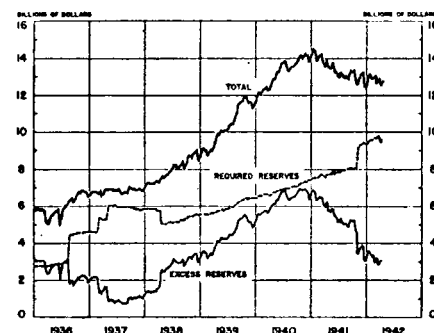
Federal Reserve monthly indexes of value of sales and stocks, adjusted for seasonal variation, 1923-25 average = 100. Latest figures shown are for March 1942.

## MEMBER BANKS IN 101 LEADING CITIES



Wednesday figures. Commercial loans, which include industrial and agricultural loans, represent prior to May 19, 1937, so-called "Other loans" as then reported. Latest figures shown are for April 8, 1942.

## MEMBER BANK RESERVES



Wednesday figures. Required and excess reserves, but not the total, are partly estimated. Latest figures shown are for April 8, 1942.

## National Summary of Business

(Prepared by the Board of Governors of the Federal Reserve System)

Industrial activity continued at a high rate in March and the first half of April. Distribution of commodities to consumers was maintained in large volume and commodity prices advanced further.

**Production:** Volume of industrial production increased seasonally in March and the Board's adjusted index remained at 172 per cent of the 1935-39 average. Output of durable manufactured products, now mostly war materials, continued to advance, reflecting mainly increased activity in the iron and steel, machinery, aviation, and ship-building industries. Production of lumber and cement, which had been maintained at unusually high levels during the winter months, increased less than seasonally in March.

In most industrial manufacturing nondurable goods activity was sustained at earlier high levels. In some, however, notably wool textiles and petroleum refining, there were declines owing to restrictions on production for civilian use and, in the case of petroleum products, to transportation difficulties. Mineral production declined in March and the first half of April, reflecting sharp curtailment in output of crude petroleum. Coal production, which usually declines at this season, was maintained in large volume. The Great Lakes shipping season opened in the latter part of March and the first boatload of iron ore reached lower Lake ports 12 days earlier than the record set last year. Shipments during the coming season are expected to exceed considerably the total of 80 million gross tons brought down the lakes last year.

Value of construction contract awards continued to increase in March, according to figures of the F. W. Dodge Corporation, and the level of the first quarter of 1942 was the highest in recent years, being some 30 per cent above that of the corresponding period last year. Awards for public work amounted to close to 80 per cent of the total and in the residential field accounted for 52 per cent of the value of all projects. Publicly-financed contracts for factory construction showed a sharp increase, partly offset in the total by a decline in private factory construction.

On April 9 the War Production Board issued an order which required explicit permission of the government for initiation of all new private construction involving expenditures in excess of specified small amounts and not covered by specific priority ratings.

**Distribution:** Value of retail trade in March continued at the high level of other recent months, making allowance for customary seasonal changes. Sales at department and variety stores increased by somewhat less than the usual seasonal amount while sales by mail-order houses rose more than seasonally.

On the railroads total loadings of revenue freight were maintained in large volume in March and the first half of April. Shipments of coal and coke declined less than seasonally and ore loadings increased sharply, while grain shipments declined further from the peak reached in January. Loadings of miscellaneous merchandise, which had been unusually large in the preceding three months, increased less than seasonally.

**Commodity prices:** The general level of wholesale commodity prices advanced  $1\frac{1}{2}$  per cent further from the middle of March to the middle of April. Among manufactured products, finished consumers' goods, such as foods, clothing, and shoes, continued to show the largest price increases. Prices of most raw materials were unchanged or showed increases, which in a number of cases reflected the raising of Federal maximum price levels. There were declines in prices of wheat and of a few other commodities, including gasoline at Gulf ports and turpentine.

In retail markets maximum prices were fixed in this period for a number of electrical products, most of which will no longer be produced for civilian use after May 31. Prices of many other commodities and services advanced further.

**Bank credit:** During the four weeks ending April 15 holdings of Government securities at banks in the leading cities increased by nearly \$700 million, while commercial loans declined somewhat, following a rise in previous weeks. Changes in member bank reserves and deposits reflected principally the temporary effects of treasury operations in connection with income tax collection and the sale of certificates of indebtedness. Money in circulation continued to increase.

**United States Government security prices:** Following an advance from the mid-February low, prices of U. S. Government bonds remained relatively steady in the first half of April.